

AMENDMENTS TO THE CLAIMS:

Claims 1-4 (cancelled).

5. (currently amended) A transport system for transporting and handling microtiter plates, for use in high throughput screening, diagnosis and/or combinatorial chemistry, the transport system comprising:

modules with devices for at least one or more of the following: preparing specimens, introducing specimens, optical readout, plate storage, and devices for further processing steps or readout steps; wherein within each module is at least one revolving table having two plate positions; and

at least one central transport system for asynchronous plate transfer between individual modules, wherein one of the revolving tables of each module functions as an input and output buffer to transfer the plates to and from the at least one central transport system;

wherein each module further comprises an internal transport system for transporting the microtiter plates between said the different devices and said at least one central transport system for asynchronous plate transfer between individual modules via input and output buffers, said the internal transport system transporting the microtiter plates by means of the revolving tables with and sliding units; and

~~wherein the input and output buffers are provided within the individual modules.~~

6-7. (cancelled)

8. (previously presented) The transport system according to claim 5, wherein at least one of the modules is connected with a local computer with externally standardized interface and the transport and/or processing and/or loading and/or optical readout are/is controlled by a master computer via these interfaces.

9. (previously presented) The transport system according to claim 5, including a sensor which detects whether or not the respective side of the revolving table is unoccupied to ensure that no collisions occur so that a microtiter plate can be loaded for return transport.

10. (previously presented) The transport system according to claim 5, including means for providing a clocked operation so that a revolving table is always inserting one microtiter plate and guiding out another microtiter plate.